

Name \_\_\_\_\_ Period \_\_\_\_\_

## Study Guide: Pure Substances, Mixtures, and Solutions

**YOUR NOTES AND LABS WILL HELP YOU WITH THE FOLLOWING QUESTIONS.**

1. A combination of 2 or more types of different materials that are NOT chemically combined is known as a \_\_\_\_\_, and a \_\_\_\_\_ has a definite chemical composition and cannot be separated into other substances by any mechanical process.
2. A/an \_\_\_\_\_ cannot be broken down by chemical or physical means. A pure substance consisting of 2 or more elements combined is a/an \_\_\_\_\_ and an example would be \_\_\_\_\_.
3. A \_\_\_\_\_ mixture is the same throughout, as all samples are identical. Examples would be \_\_\_\_\_.
4. A \_\_\_\_\_ mixture is different throughout, with no definite composition. Examples would be \_\_\_\_\_.
5. Lemonade is an example of a \_\_\_\_\_ mixture, and Lucky Charms cereal with marshmallows is an example of a \_\_\_\_\_ mixture.
6. What are 2 types of pure substances?
7. A mixture that contains at least one metal is called a/an \_\_\_\_\_.
8. In a/an \_\_\_\_\_ the particles of a substance are mixed with a fluid but are not dissolved, so they will eventually settle out.
9. Give 3 examples of colloids.
10. Give an example of a suspension.
11. The substance that is dissolved in a solution and is always in smaller proportion is the \_\_\_\_\_ and the substance that does the dissolving and is in larger proportion is the \_\_\_\_\_.
12. A homogeneous mixture of a solute and a solvent is called a \_\_\_\_\_, and when the solvent is water, it is called a/an \_\_\_\_\_.
13. \_\_\_\_\_ substances are able to dissolve while \_\_\_\_\_ substances will not dissolve.
14. Give 2 examples of substances used in lab that are INSOLUBLE in water.
15. The amount of solute that will completely dissolve in a solvent and changes with temperature is known as \_\_\_\_\_.

16. A solution that will not dissolve any more solute at a given temperature or pressure is called a \_\_\_\_\_, and if it contains more of the dissolved material than could normally be dissolved it is called a \_\_\_\_\_.

17. Solubility is usually measured in grams of \_\_\_\_\_ per unit volume of \_\_\_\_\_.

18. The process used to separate insoluble solids from liquids by passing a mixture of the two through a mesh is called \_\_\_\_\_, and the process by which an insoluble solid settles out from a solid/liquid mixture is called \_\_\_\_\_.

19. \_\_\_\_\_ can be used to separate a solid solute (like salt) from the solvent in which it is dissolved (like water) by allowing the liquid to turn into a gas.

20. During filtration, the \_\_\_\_\_ is what remains behind on the filter paper, while the substances that pass through the filter paper are called the \_\_\_\_\_.

21. During sedimentation, the solid that collects below the liquid is called the \_\_\_\_\_.

22. Evaporation can be speeded up by \_\_\_\_\_ the substance, while sedimentation can be speeded up by \_\_\_\_\_ the substance.

23. If exactly 7g of yellow crystals are mixed with 25g of water to form a solution, what is the mass of the yellow solution formed?

24. If exactly 4mL of alcohol and 26mL of water are mixed to form a solution, will the volume of the solution be *30mL*, *less than 30mL*, or *more than 30mL*?

25. When salt is added to ice, what happens to the melting point?

26. When salt is added to boiling water, what happens to the boiling point?

27. WHY is salt added to icy roads and HOW does it do so?

28. How does salt help freeze the cream mixture when making ice cream?

29. The technique used to separate the dyes in ink is called \_\_\_\_\_.

30. **Explain AND Draw** the procedure used to analyze the composition of the different black ink samples.